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**UNITED STATES DISTRICT COURT**  
**FOR THE DISTRICT OF OREGON**  
**PORTLAND DIVISION**

**PUBLIC POWER COUNCIL**, a non-profit  
organization,

Plaintiff,

v.

**U.S. ARMY CORPS OF ENGINEERS**, an  
agency of the United States Army and  
Department of Defense,

Defendant.

Case No: 3:21-cv-00032-HZ

**DECLARATION OF MICHAEL DEEN  
IN SUPPORT OF PLAINTIFF PUBLIC  
POWER COUNCIL'S RESPONSE TO  
MOTION TO DISMISS**

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I, MICHAEL DEEN, in accordance with the provisions of 28 U.S.C. Section 1746,  
hereby declare as follows:

1. I originally joined the staff of Plaintiff Public Power Council ("PPC") in 2007. After a two-year departure, I re-joined PPC staff in 2013 and currently serve as its Policy Director, a position I have held since 2017. In my present capacity, I am responsible for conducting review,

analysis, and providing counsel regarding all aspects of the Bonneville Power Administration (“BPA”) costs and rates, as well as regional and national energy policy issues that affect BPA preference power customers and their ultimate consumers. As for my educational background, I hold an MBA in Business Analytics from Oregon State University and a Bachelor’s Degree from Reed College. I have completed extensive coursework in statistics, data analysis, research design, and economics and have frequently testified as an expert witness in regulatory and ratemaking proceedings on a variety of power supply, cost, ratemaking, and policy topics surrounding BPA and Pacific Northwest utilities. I make this Declaration based upon my own personal knowledge as well as on information provided by other PPC officials with knowledge of the subjects addressed in this Declaration. I believe based on the foregoing that the following information is true and correct to the best of my knowledge.

2. In my role as Policy Director for PPC, I am intimately familiar with the Federal Columbia River Power System (“FCRPS”) and, in particular, the ways and means by which the system generates hydropower purchased by PPC’s members under contracts with BPA, the federal agency that markets that power. I am generally also familiar with the interim measures the Defendant U.S. Army Corps of Engineers (“Corps”) has adopted for implementation pending its completion of reinitiated consultation under the Endangered Species Act on the Willamette Valley Project and the related environmental impact statement it is preparing pursuant to the National Environmental Policy Act.

3. The FCRPS, and the marketing and sale of the substantial hydropower it generates, is a joint federal enterprise collectively administered and operated by the Corps, BPA, and the U.S. Bureau of Reclamation. The system comprises 31 federally owned and operated multi-purpose

dams throughout the Columbia River Basin and several of its sub-basins, including the Willamette River Basin.

4. BPA is a federal agency created by the Bonneville Project Act of 1937 for the purpose of marketing power from federal hydropower projects at cost. Pursuant to the statutes by which BPA allocates and sets rates for the power it markets from the FCRPS, non-profit public and cooperative electric utilities have a first right, or statutory preference, to such power, as a result of which they are classified as BPA's "preference customers."

5. BPA's funding and rate-setting mechanisms have evolved substantially since its creation with successive rounds of legislation and regulatory actions. The result is that the inner workings and precise details of FCRPS operations, statutes, and rate-setting processes can be rather complex. The chain of causation from the manner in which the Corps manages Detroit Dam, the FCRPS project at issue in this case, to the economic consequences and costs that the preference customers who make up the members of PPC inevitably have to bear, however, is straightforward and indisputable. This stems from several undeniable factual and legal propositions, as set forth and explained below.

6. First, preference customers must serve their electrical demand and are always able to utilize power generated by the collective federal hydropower projects that comprise the FCRPS, including Detroit Dam, either to meet load directly or for the purpose of a market sale to offset other costs of service. There is a preference customer behind every megawatt of the FCRPS whether generated or not.

7. Second, BPA is a self-funded agency, meaning that it has no other source of revenue for the administration of its statutory mission aside from the revenues it derives from the sale of power and transmission products. BPA must recover all of its costs and does so by passing all

the costs through to its customers through the products it sells. Because its revenues come entirely from sales to customers, BPA enters into contracts with its power customers whereby they become legally responsible for funding the costs of FCRPS operations and effectively bear the full financial burden and risk arising from changes to costs or output of the system in any given year. This is true both in terms of how power rates are set on a prospective basis as well as in assessing costs that arise from a variance in actual operations of FCRPS projects such as Detroit Dam.

8. Third, BPA directly provides the Corps with funding to cover the costs of operations and maintenance for the Corps-managed projects of the FCRPS, including Detroit Dam. These costs include those arising from fish and wildlife conservation measures, and are eventually passed on, dollar-for-dollar, to BPA's customers in the form of higher rates or cost assessments. To the extent that actual operations and capital expenditures vary from the planning expectations used to set rates, BPA manages that impact via financial reserves or rate surcharge and credit mechanisms, including Cost-Recovery Adjustment Clauses ("CRACs"). Regardless of the rate mechanisms BPA utilizes, its utility customers bear final responsibility for all costs associated with FCRPS operations, given that BPA is statutorily mandated to set rates so as to fully recover its costs, as explained above.

9. Fourth, although wholesale power supply arrangements vary, power costs also are ultimately reflected and compared in terms of "dollars per megawatt-hour" paid, a useful and widely accepted metric in the industry for revealing the real economic consequences of FCRPS operations on power customers. The numerator for this ratio is the total cost of the FCRPS power supply while the denominator is the amount of electric energy supplied. This metric reveals that either an increase in costs associated with generation of power at an FCRPS project

such as Detroit Dam, or a decrease in output at the project, will necessarily raise the ultimate cost of power supply for PPC members.

10. Fifth, because the output of FCRPS projects varies substantially from year to year in light of a series of variables and contingencies, BPA manages its power supply portfolio based on the “firm” or “critical” output of the FCRPS that can be expected even under the lowest historically observed water supply conditions. In almost all years, therefore, the FCRPS will generate more than this critical water supply amount. This is typically referred to as “secondary” energy over and above the “firm” amount. BPA sells this additional energy in wholesale power markets. The revenue from these secondary sales is applied as a credit to offset the costs of FCRPS operations when BPA sets its wholesale rates. The firm output of the FCRPS, net of certain “off the top” obligations, is currently subscribed entirely by non-profit public or cooperative utility customers, most of whom are PPC members. Current power supply contracts obligate these public power utilities to the full available firm output and associated net costs of the FCRPS through September of 2028.

11. Sixth, as the entities that ultimately fund the costs for power production at the FCRPS facilities and depend on its output to meet their load service obligations, preference power customers are uniquely affected by changes in costs or operations. Moreover, many of PPC’s members are entirely dependent upon the FCRPS power that BPA markets for their power. In addition, it must be remembered in this context that, in terms of power operations, there is functionally no Corps or BPA money – there is only FCRPS customers’ money at stake. That is, there is no other source of revenue from which BPA or the Corps can draw from to defray such costs that ultimately are borne by FCRPS customers, and therefore, conversely, the Corps is not directly affected by the financial consequences of its operational decisions in this regard.

12. Seventh, the higher nominal or effective rates and additional costs that arise from the Corps' operational decisions in managing Detroit Dam in turn are ultimately borne by the communities and businesses that preference power customers, including PPC's members, serve. This follows because PPC's members are public or cooperative utilities that operate as non-profit entities. As a result, not just PPC's members are affected by the Corps' operational decisions in managing FCRPS projects such as Detroit Dam, but also each and every one of the end-user customers of PPC's members, which makes it even more critical that the Corps' operational and other decisions that materially affect hydropower production at such projects be subject to review and input from the most directly affected stakeholders, the FCRPS preference customers who make up PPC's membership, as well as other members of the affected public.

13. Therefore, the foregoing chain of causality can be summarized as follows:

- Preference power utilities must meet their electric demand, which is independent of the output of Detroit Dam;
- Preference power customers have long-term power supply contracts with BPA under which they receive the full available firm output of the FCRPS and pay all its net power costs, including operations and maintenance of Detroit Dam;
- Any reduction in the output of Detroit Dam or other FCRPS projects will result in the need for BPA or its preference customers to purchase additional wholesale energy to meet demand or forgo a sales opportunity, which is economically equivalent;
- This, in turn, inevitably leads to higher power costs expressed in terms of dollars per megawatt-hour;
- As there is no other source of funds, preference power customers directly bear substantially all the financial burden resulting from changes in FCRPS operations or costs; and

- As non-profit public or cooperative utilities, these impacts are in turn borne by Northwest communities and businesses.

14. Consequently, as a factual matter, PPC's preference-customer members are directly, necessarily, and undeniably adversely affected by the Corps' operational decisions that result in reduced hydropower production at Detroit Dam. Lower output from the project means higher power costs, most clearly expressed as a matter of dollars per megawatt-hour paid for FCRPS power. This is true whether the absent generation results in a need to purchase additional power or a forgone opportunity to purchase the power that has not been generated. Any change in BPA's power cost is ultimately passed through to its power customers. There is quite simply no other source of alternative allocation or incremental funds to mitigate the impact.

15. As a general matter, BPA's power customers have made extremely large financial investments in mitigation efforts for fish and wildlife affected by operations of the FCRPS. Since 1999, the year that Willamette Valley Steelhead were listed under the Endangered Species Act, BPA has tallied some \$14.9 billion in net fish and wildlife mitigation costs. This includes the repayment of capital improvements, program expenses, and forgone revenues and power purchases. BPA provides this information annually to the Northwest Power Planning and Conservation Council ("NWPPCC"), where it is publicly available online. A summary of this information is included as Exhibit 1. Additionally, the NWPPCC produces a detailed report on FCRPS fish and wildlife mitigation efforts to the Northwest Governors each year. The 2020 draft report is included as Exhibit 2. Finally, a BPA fact sheet regarding fish and wildlife costs is included as Exhibit 3.

16. With more specific respect to the Corps' Interim Measure No. 5, it has, both as originally adopted and refined in December 2020, altered operations at Detroit Dam in a manner that has

materially reduced, and will continue to materially reduce, the power output that otherwise would be generated by that project in the absence of that measure. For the reasons outlined above, this inevitably results in an increased power supply costs for PPC's members. That energy is no longer available for BPA's power supply portfolio. Since demand is not affected by reductions in output of the FCRPS, at any given time this means that BPA or customers must purchase additional energy from the wholesale market or that the opportunity to make a sale of surplus energy is forgone. Both of these circumstances are equivalent in their very real and concrete adverse economic impact to PPC members.

17. In large measure due to the facts that the Corps has not yet produced an administrative record underlying its decision to adopt and implement Interim Measure No. 5 and that it failed to engage in any public notice or process ahead of its decision, calculating precise economic damages to PPC's members as a result of the operational changes prescribed by that measure in any kind of precise terms has proven difficult. Nevertheless, to arrive at an estimate of the economic impact Interim Measure No. 5 has had on preference customers, I analyzed historical generation and flow data at Detroit Dam for the period of fiscal years ("FY") 2009-21. I selected this time frame to correspond to the most recent Biological Opinion issued on the Willamette Valley Project. The historical generation and flow data I used is available online on the Corps' public website.

18. I am also aware as a result of a recent Notice that the Corps made in the related case of Northwest Env'tl. Def. Ctr. v. U.S. Army Corps of Eng'rs, Case no. 3:18-cv-00437-HZ (Dkt. #178), that the Corps has made refinements to its June 2020 Implementation Plan, including to Interim Measure No. 5 at issue in this case. In that light, I account for this refinement in the



analysis, calculations, and results it presents related to its actual and projected hydropower and economic harms described in this declaration.

19. There are two potential causes of lost value from the operational changes at Detroit Dam. First is additional spill. Water that passes through the spillway instead of the powerhouse cannot be used to generate electricity. The data for the most recent operating period show a dramatic increase in the proportion of spill compared to flow used for generation. Historically for November through January during FY 2009-2020 approximately 22% of the flow at Detroit was spilled and 78% went through the powerhouse. For the most recent November through January, this changed dramatically with 60% of flow being spilled and only 40% utilized for generation.

20. Generation can also occur in more or less valuable hours. Energy is traditionally divided into “heavy load hours” and “light load hours.” Heavy load hours are defined as operating hours ending 7 through 22, Monday through Saturday (excluding certain holidays defined by the North American Electric Reliability Corporation). Light load hours are all other times. Due to higher demand, energy in heavy load hours is typically more valuable.

21. In the months of November through January in FY 2009 through FY 2020 time period, 63% of generation at Detroit Dam was during heavy load hours. For the most recent November 2020-through-January-2021 period, this dropped to 58%.

22. In consideration of these factors, I created alternative monthly generation for the most recent November-through-January period based on the historical split between heavy and light load hour generation and the historical proportion of flow being used for spill and generation to represent likely generation levels in the absence of altered operations.

23. To value this generation relative to actuals under changed operations, I used actual day-ahead, wholesale market prices from the Mid-Columbia (“Mid-C”) market hub. The Mid-C

market hub is the primary location for wholesale power transactions in the Pacific Northwest.

This data was obtained from the Intercontinental Exchange (“ICE”) price database. Day-ahead trades are transactions completed the day before delivery and represent the majority of trading volume at the Mid-C hub. Therefore, this is a reasonable price for valuation.

24. Based on actual prices in November through January along with historical generation and spill during the affected periods, I estimate a \$1.39 million financial harm of the operational changes for this period. As described above, any loss of generation will result in an economically equivalent lost sales opportunity or need for purchase in the market. This analysis represents a reasonable and conservative estimate of lost generation value based on available facts.

25. The table attached as Exhibit 4 summarizes the economic impact calculation described above.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on this 5th day of May 2021.

s/ Michael Deen  
Michael Deen  
Policy Director  
Public Power Council